

Title (en)  
ELECTROLYTE FILM AND SOLID POLYMER FUEL CELL USING THE SAME

Title (de)  
ELEKTROLYTFILM UND FESTPOLYMERBRENNSTOFFZELLE DAMIT

Title (fr)  
FILM ELECTROLYTE ET PILE A COMBUSTIBLE A MEMBRANE POLYMERES SOLIDE UTILISANT LEDIT FILM

Publication  
**EP 1487041 A4 20060607 (EN)**

Application  
**EP 03743622 A 20030306**

Priority  
• JP 0302631 W 20030306  
• JP 2002061916 A 20020307

Abstract (en)  
[origin: EP1487041A1] An electrolyte membrane having a porous base material having pores filled with a first polymer capable of conducting a proton, wherein the porous base material comprises i) at least one second polymer selected from the group consisting of polyolefins and ii) a third polymer having double bond in the polymer, and contains a crosslinked second polymer wherein molecules of the second polymer are crosslinked with one another; and a fuel cell, particularly a solid polymer fuel cell, more specifically a direct methanol polymer fuel cell, using the electrolyte membrane. The electrolyte membrane is excellent in the inhibition of permeation of methanol, exhibits no or reduced change in its area, and is excellent in proton conductivity.

IPC 8 full level  
**H01M 8/02** (2006.01); **C08J 5/18** (2006.01); **C08J 5/22** (2006.01); **C08J 9/00** (2006.01); **C08L 23/00** (2006.01); **H01B 1/06** (2006.01); **H01B 1/12** (2006.01); **H01M 2/16** (2006.01); **H01M 8/10** (2006.01)

CPC (source: EP US)  
**C08J 5/2275** (2013.01 - EP US); **H01B 1/122** (2013.01 - EP US); **H01M 8/1011** (2013.01 - EP US); **H01M 8/1016** (2013.01 - EP US); **C08J 2323/06** (2013.01 - EP US); **C08J 2485/04** (2013.01 - EP US); **H01M 2300/0082** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP US)

Citation (search report)  
• [A] WO 0194450 A2 20011213 - STANFORD RES INST INT [US], et al  
• [A] EP 1101792 A1 20010523 - NITTO DENKO CORP [JP]  
• [A] WO 0054351 A1 20000914 - CENTER FOR ADVANCED SCIENCE AN [JP], et al & EP 1202365 A1 20020502 - CT FOR ADVANCED SCIENCE & TECH [JP]  
• See references of WO 03075386A1

Cited by  
US7785751B2

Designated contracting state (EPC)  
DE DK FI FR GB IT

DOCDB simple family (publication)  
**EP 1487041 A1 20041215**; **EP 1487041 A4 20060607**; **EP 1487041 B1 20070425**; CN 1305159 C 20070314; CN 1639898 A 20050713; DE 60313442 D1 20070606; DE 60313442 T2 20080103; DK 1487041 T3 20070806; JP 2011094155 A 20110512; JP 5010799 B2 20120829; JP WO2003075386 A1 20050630; US 2005147860 A1 20050707; US 7824820 B2 20101102; WO 03075386 A1 20030912

DOCDB simple family (application)  
**EP 03743622 A 20030306**; CN 03805368 A 20030306; DE 60313442 T 20030306; DK 03743622 T 20030306; JP 0302631 W 20030306; JP 2003573727 A 20030306; JP 2011012669 A 20110125; US 50672005 A 20050310